

Patent App. Ser. No. 09/938,387
Eclipse Group Docket No. ST00015USU2 (108-US-U2)

I. AMENDMENTS TO THE CLAIMS

1. (Previously presented) An apparatus for compressing a Global Positioning System (GPS) signal, comprising:
 - a first mixer for removing a carrier component of the GPS signal;
 - a second mixer for receiving the carrier-removed GPS signal and a separately received frequency reference signal and outputting a resultant signal;
 - a comb filter, coupled to the second mixer, for filtering the resultant signal and obtaining a first output comprising filter lines; and
 - a frequency shifter for shifting the filter lines in the first output to produce a compressed GPS signal.
2. (Previously presented) The apparatus of claim 1, further comprising a second frequency shifter for shifting the compressed GPS signal to produce a second compressed GPS signal.
3. (Previously presented) The apparatus of claim 2, wherein the comb filter filters the carrier-removed GPS signal that have been combined with the reference frequency signal received from a remote location via a wireless communication link, and using the reference frequency signal from the remote location to shift the carrier-removed GPS signal received at the comb filter to an expected location of the filter lines of the first output.
4. (Previously presented) The apparatus of claim 3, wherein the frequency shifting of the filter lines comprises mixing the filter lines with at least one output of a frequency generator.
5. (New) A receiver comprising:
 - at least one antenna for receiving a GPS signal from GPS satellites and for sending and receiving radio signals over a radio link to a base station, the radio signals including a frequency reference signal;
 - a first mixer for removing a carrier component of the GPS signal;
 - a second mixer for receiving the carrier-removed GPS signal and the frequency reference signal and outputting a resultant signal;
 - a comb filter, coupled to the second mixer, for filtering the resultant signal

Patent App. Ser. No. 09/938,387
Eclipse Group Docket No. ST00015USU2 (108-US-U2)

and obtaining a first output comprising filter lines; and

a frequency shifter for shifting the filter lines in the first output to produce a compressed GPS signal.

6. (New) The receiver of claim 5 where the at least one antenna includes a GPS antenna for receiving the GPS signal and a wireless communications antenna for communicating the radio link.
7. (New) The receiver of claim 5 further comprising:
a transmitter coupled to the at least one antenna to communicate the compressed GPS signal to the base station.
8. (New) The receiver of claim 1, further comprising a second frequency shifter for shifting the compressed GPS signal to produce a second compressed GPS signal.
9. (New) The receiver of claim 8, wherein the comb filter filters the carrier-removed GPS signal that have been combined with the reference frequency signal received from a remote location via a wireless communication link, and using the reference frequency signal from the remote location to shift the carrier-removed GPS signal received at the comb filter to an expected location of the filter lines of the first output.
10. (New) The receiver of claim 9, wherein the frequency shifting of the filter lines comprises mixing the filter lines with at least one output of a frequency generator.